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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/766,225

01/28/2004

Troy Prince

ORB-024

2876

7590

11/16/2006

Brian Kolkowski  
Orbital Research Inc.  
6340 Taylor Road  
Leroy, OH 44077

EXAMINER

BAREFOOT, GALEN L

ART UNIT

PAPER NUMBER

3644

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/766,225

Applicant(s)

PRINCE ET AL

Examiner

Galen L. Barefoot

Art Unit

3644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**The finality of the last office action is withdrawn in view of  
newly cited art and new rejections that follow.**

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-20 are rejected on the ground of nonstatutory double patenting over claims 1-20 of U. S. Patent No. 6,685,143 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

**An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the**

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conflicting claims are not identical, they are not patentably distinct from each other because claims 1-20 are generic to all that is recited in claims 1-20 of U.S. Patent No 6,685,143. In other words, claims 1-20 of U.S. Patent No. 6,685,143 **fully encompasses** the subject matter of claims 1-20 and therefore anticipates claims 1-20. Specifically, because the flow effector of the application is included in the deployable flow effector of the patent claims.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4-7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Meier et al (4989810).

Meier et al states :

The disturbances may be introduced at a frequency which corresponds approximately to the respective Tollmien-Schlichting frequency or a higher frequency. The Tollmien-Schlichting frequency is in this case dependent on the respective incoming-flow velocity. For example, at an incoming-flow velocity of 20 m/sec., it is approximately 600 Hz. At higher incoming-flow velocities, the Tollmien-Schlichting frequency increases. The respective magnitude of the Tollmien-Schlichting frequency may be determined experimentally with the aid of surface heated film measurements. It is, however, also possible to choose a frequency which is far above the respective Tollmien-Schlichtung (sic) frequency, and it is thus ensured that the laminar-turbulent boundary layer transition takes place. In this

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case, an experimental determination of the respective Tollmien-Schlichtung (sic) frequency is not necessary.

The magnitude of the disturbances may be advantageously controlled by open-loop or closed-loop control. Consequently, it is possible that the disturbances introduced into the boundary layer can be adapted to changing circumstances, such as for example the incoming-flow velocity. This is also conceivable in the form of a control loop, in which the unsteady disturbances are either introduced into the boundary layer or not in dependence on, for instance, the flying speed of an aircraft. There is also the possibility of providing sensors at certain endangered points of the aircraft, that is for example at points on the wings or the tailplanes, which sensors indicate the occurrence of a laminar separation and, on the basis of this indication, the unsteady disturbances are introduced into the boundary layer in accordance with the method at these points.

(3) Via the electrical connections 10, the electromagnet 9 is excited in such a way that the first membrane 2 is set in acoustic oscillations. The air cushion 5 in the free space 4 is blown out by the oscillations of the first membrane 2 through the clearances 6 of the second membrane 3 and sucked in again. The oscillations of the first membrane 2 transfer via the air cushion 5 to the second membrane 3, which is consequently likewise set in oscillations. With the aid of the supply unit (not shown here), the frequency and the amplitude of the oscillations can be set. The disturbance generator 1 is expediently coupled to an open-loop or closed-loop control system, which activates or de-activates the disturbance generator 1 in dependence on the respective flow conditions present and also controls the frequency and amplitude of the first membrane 2. Used as controlled variable in this case is the respective state of the flow just downstream of the disturbance generator.

The device of Meier et al is mounted on a wing which is a forebody of the aircraft.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Galen L Barefoot whose telephone number is 571-272-6898.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045.

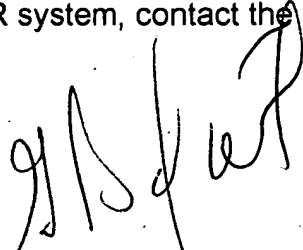
On July 15, 2005, the Central FAX Number will change to **571-273-8300**.

**CENTRALIZED DELIVERY POLICY:** For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the Central FAX number, unless an exception applies. For example, if the examiner has rejected claims in a regular U.S. patent application, and the reply to the examiner's Office action is desired to be transmitted by facsimile rather than mailed, the reply must be sent to the Central FAX Number.

Any inquiry of a general nature or relating to the status of this application or proceedings should be directed to **800-786-9199**.

Information regarding the status of an application may also be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 13, 2006



**Galen Barefoot**  
**Primary Examiner**  
**Technology Center 3644**

3. In view of the Appeal Brief filed on August 16, 2006, PROSECUTION IS  
HEREBY REOPENED. Rejection set forth above.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

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A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:



Teri Luu

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